

Abstract

Switching elements M1, M2, M3 are connected in series between the positive and negative lines carrying DC current supplied through a rectifier circuit 2 from an AC power supply 1 or directly supplied from a DC power source. The switching elements M1, M2, M3 are on/off controlled by a high-frequency signal. An inductor L1 and a capacitor C1 are inserted between a connection node a and a load terminal c. An inductor L2 and a capacitor C2 are inserted between a connection node b and a load terminal d. The phases of on/off of the switching elements M1, M3 are the same, and the phase of on/off of the switching element M2 is opposite to them. Without using any transformer, not only insulation against DC but insulation against AC is adequately ensured.